IN THE CLAIMS

Please make the following claim substitutions:

1. (Original) A data transmission system comprising:

a first plurality of Gigabit Ethernet input/output ports,

each port adapted to be coupled to a first Gigabit Ethernet link

carrying data packets;

a multiplexer interface coupled to said first input/output

ports;

a multiplexer coupled to said multiplexer interface, said

data packets;

a transmitter coupled to said multiplexer; and

an optical link coupled to said transmitter;

wherein said multiplexer interface comprises a first

optical transceiver adapted to detect a first loss of signal in

said first Gigabit Ethernet links and generate a signal loss

code insert; and

wherein said multiplexer is adapted to multiplex said

signal loss code insert with said data packets.

2. (Original) The system of claim 1, further comprising:

a receiver coupled to said optical link;

a demultiplexer coupled to said receiver; and

a demultiplexer interface coupled to said demultiplexer,

wherein said demultiplexer comprises a plurality of second

optical transceivers that are each adapted to be coupled to a

plurality of second Gigabit Ethernet links;

wherein said demultiplexer interface is adapted to receive

said signal loss code insert and in response, prevent at least

one of said second optical transceivers from transmitting light.

1 3. (Original) The system of claim 2, further comprising a photo-

2 detector circuit coupled to said demultiplexer;

3 wherein said photo-detector circuit is adapted to detect a

4 second loss of signal in said optical link and in response,

5 generate a deactivate signal and transmit the deactivate signal

6 to said second optical transceivers.

1 4. (Currently amended) The system of claim 2, wherein <u>each of</u> said second optical

2 transceivers comprise<u>s</u> a ~~PHY~~ <u>physical layer</u> chip,

3 ~~and wherein said PHY chip is~~

4 adapted to detect a third loss of signal in one of said second

5 Gigabit Ethernet links and go into an auto-negotiation stage.

1 5. (Original) The system of claim 1, wherein said signal loss code

2 insert is bit multiplexed with said data packets.

1 6. (Original) The system of claim 1, wherein said multiplexer is

2 adapted to multiplex on a bit by bit basis.

1 7. (Currently amended) A method of <u>communicating the existence of</u>

2 ~~detecting fiber~~ faults in a data transmission system, said method comprising:

3 receiving a plurality of data packets carried on a

4 plurality of first Gigabit Ethernet links at a first plurality

5 of Gigabit Ethernet input/output ports;

6 multiplexing~~,~~ said data packets onto an optical link;

7 detecting a first loss of signal in said first Gigabit

8 Ethernet links and generating a signal loss code insert; and

9 multiplexing said signal loss code insert with said data packets.

1 8. (Currently amended) The method of claim <u>7</u> ~~6,~~ said optical link coupled to a

2 demultiplexer, said demultiplexer comprising a plurality of

3 second optical transceivers that are each adapted to be coupled

4   to a plurality of second Gigabit Ethernet links, said method

5   further comprising:

6   receiving said signal loss code insert; and

7   preventing at least one of said second optical transceivers

8   from transmitting light in response to said signal loss code insert.

1   9. (Original) The method of claim 7, wherein a photo-detector circuit

2   is coupled to said demultiplexer, said method further

3   comprising:

4   detecting a second loss of signal in said optical link;

5   generating a deactivate signal in response to said second

6   loss of signal; and

7   transmitting the deactivate signal to said second optical transceivers.

1   10. (Currently amended)   The method of claim 7, wherein <u>each of</u> said second optical

2   transceivers comprise<u>s</u> a ~~PHY~~ <u>physical layer</u> chip,

3   said method further comprising <u>said physical layer chip</u>

4   detecting a third loss of signal in one of said second

5   Gigabit Ethernet links; and

6   entering into an auto-negotiation stage.

1   11. (Currently amended)   The method of claim <u>7</u> ~~6~~, further comprising:

2   bit multiplexing said signal loss code insert with said data packets.

1   12. (Currently amended)   The method of claim <u>7</u> ~~6~~, wherein the multiplexing is

2   accomplished on a bit by bit basis.

1

13. (New)   A method of communicating the existence of a fault in a link over which data was being transmitted from a transmitting node to a receiving node in a data transmission system, the method comprising transmitting a fault-identifying signal to the receiving node along at least a portion of said link in place of said data.

14. (New)   A system for communicating the existence of a fault in a link over which data was being transmitted from a transmitting node to a receiving node in a data transmission system, said system comprising:
means for detecting a loss of signal at an input/output port, and
means for transmitting a fault-identifying signal to the receiving node along at least a portion of said link in place of said data.

15. (New)   A multiplexer interface comprising:
a plurality of input ports, each input port being adapted to receive data from a respective input link,
a plurality of output ports, the data received by each input port being applied to a corresponding one of said output ports,
means for detecting a loss of signal at any one of said input ports,
means for generating a fault-identifying signal in response to detecting said loss of signal, and
means for applying said fault-identifying signal to the output port corresponding to one of said input ports.

16. (New)   The multiplexer interface of claim 15, wherein said data are carried in packets of variable length and wherein said data are 8b/10b-coded.

17. (New)   The multiplexer interface of claim 15, wherein said fault identifying signal is a signal that 8b/10b encoding does not produce.

18. (New)   A multiplexer interface, comprising:
at least one input port, said input port being adapted to receive data from a respective input link,

4 at least one output port, the data received by said input port being applied to said output

5 port,

6 means for detecting a loss of signal at said input port,

7 means for generating a fault-identifying signal in response to detecting said loss of

8 signal, and

9 means for applying said fault-identifying signal to said output port.

1 19. (New)   The multiplexer interface of claim 18, wherein said data are carried in

2 packets of variable length and wherein said data are 8b/10b-coded.

1 20. (New)   The multiplexer interface of claim 18, wherein said fault identifying signal

2 is a signal that 8b/10b encoding does not produce.